

CLAIMS

We claim:

1. An Anode Rod Depletion Indicator comprising:

a core wire arranged within an anode rod;

5 said core wire having at least one longitudinal passageway and at least one substantially lateral passageway communicating with said longitudinal passageway;

actuator means in communication with an end of said longitudinal passageway;

indicator means for indicating that said anode rod is depleted, said indicator means being connected to said actuator means;

10 wherein when said anode rod is depleted to an extent sufficient to expose a predetermined amount of said core wire so that a fluid surrounding said anode rod flows into said lateral passageway and said longitudinal passageway and pressurizes until reaching a threshold which triggers said actuator; and

15 said indicator means is displaced by said actuator means to a position which indicates that said anode rod is depleted.

2. The device according to claim 1, wherein said actuator means comprises a pressure gauge.

3. The device according to claim 1, wherein said actuator means comprises a piston.

20 4. The device according to claim 1, wherein said actuator means comprises a switch.

5. The device according to claim 1, wherein said indicator means includes a light for indicating that said anode rod is depleted.

6. The device according to claim 1, wherein said indicator means includes an audible indication.

7. The device according to claim 1, wherein said indicator means includes means for remote indication that said anode rod is depleted.

5 8. The device according to claim 1, comprising at least a second substantially lateral passageway communicating with said longitudinal passageway.

9. The device according to claim 1, wherein said longitudinal passageway is positioned in the center of said core wire.

10 10. The device according to claim 1, wherein said longitudinal passageway is offset from a center of said core wire.

11. The device according to claim 1, further comprising a switch; and wherein said actuator means actuates said switch to cut off at least one of a fluid supply and a fuel supply.

15 12. The device according to claim 1, wherein said threshold pressure which triggers said actuator is reached when the predetermined amount of exposure of the core wire is at least six inches.

13. The device according to claim 1, wherein said substantially lateral passageway is arranged at one of an acute and obtuse angle relative to said longitudinal passageway.

20 14. An Anode Rod Depletion Indicator comprising:

a core wire arranged within an anode rod;

said core wire having at least one fluted portion of a predetermined longitudinal length;

an actuator in communication with at least the fluted core portion; and
indicator means for indicating that said anode rod is depleted, said indicator
means being connected to said actuator;

wherein when said anode rod is depleted to an extent sufficient to expose a
predetermined amount of the fluted core portion of said core wire so that a fluid which
surrounds said anode rod flows in the fluted portion and pressurizes until reaching a
threshold which triggers said actuator, and

said indicator means is displaced by said actuator to a position to indicate that said
anode rod is depleted.

10 15. The device according to claim 14, wherein said actuator comprises a piston.

16. The device according to claim 14, wherein said actuator comprises a
pressure gauge.

17. The device according to claim 14, wherein said actuator comprises a switch.

15 18. The device according to claim 14, wherein, said indicator means includes at
least one of an indicator light and an audible indicator to indicate that said anode rod is
depleted.

19. The device according to claim 14, wherein said indicator means includes
means for remote indication that said anode rod is depleted.

20 20. The device according to claim 14, wherein the threshold pressure of the fluid
to trigger said actuator is reached when the predetermined amount of exposure of the core
wire is at least six inches.

21. The device according to claim 14, wherein said indicator means further
comprises a switch, and said actuator actuates said switch to cut off at least one of a fluid

supply and a fuel supply.

22. An Anode Rod Depletion Indicator comprising:

an anode rod having at least one longitudinal hollowed passageway and at least one substantially lateral hollowed passageway communicating with said longitudinal
5 hollowed passageway;

actuator means in communication with an end of said longitudinal hollowed passageway;

indicator means for indicating that said anode rod is depleted, said indicator means being connected to said actuator means;

10 wherein when said anode rod is depleted to an extent sufficient so that a fluid surrounding said anode rod flows into said lateral hollowed passageway and in said longitudinal hollowed passageway and pressurizes until reaching a threshold which triggers said actuator means; and

said indicator means is displaced by said actuator means to a position which
15 indicates that said anode rod is depleted.